Montana Fish, Wildlife & Parks

February 24, 2000

1420 East 6th Ave.
P.O. Box 200701
Helena, MT 59620-0701

Environmental Quality Council
Montana Department of Environmental Quality
Montana Department of Fish, Wildlife and Parks
Fisheries Division
Endangered Species Coordinator
Nongame Coordinator
Great Falls Office
Montana State Library, Helena
MT Environmental Information Center
Montana Audubon Council
Cascade County Conservation District, 12 3rd St. NW, Great Falls, MT 59404
U.S. Army Corp of Engineers, Helena
U.S. Fish and Wildlife Service, Helena
State Historic Preservation Office, Helena
Mr. Alan Rollo, 808 52nd Street S., Great Falls, MT 59405
Mr. Igor Suchomel, 410 Wisconsin Ave., Whitefish, MT 59937
Mr. Gary Lewis, 1025 Eleventh Avenue North, Great Falls, MT 59403

Ladies and Gentlemen:

Please find enclosed an Environmental Assessment prepared for a Future Fisheries Project tentatively planned to restore the dimension, pattern and profile of 2,000 feet of river channel on the Sun River. This proposed project, involving oversight by a private consultant, is on property owned by Mr. Gary Lewis located approximately 5 miles west of the town of Vaughn in Cascade County.

Please submit any comments that you have by 5 P.M., March 24, 2000 to the Department of Fish, Wildlife and Parks in Helena at the address listed above. Completion of this project is contingent upon approval being granted by the Fish, Wildlife and Parks Commission. If you have any questions, feel free to contact me at (406) 444-2432.

Sincerely,

Mark Lere, Program Officer
Habitat Protection Bureau
Fisheries Division

ENVIRONMENTAL ASSESSMENT
Fisheries Division
Montana Fish, Wildlife and Parks
Sun River Channel Restoration Project

General Purpose: The 1995 Montana Legislature enacted statute 87-1-272 through 273 which directs the Department to administer a Future Fisheries Improvement Program. The program involves physical projects to restore degraded fish habitat in rivers and lakes for the purposes of improving wild fisheries. The legislature established an earmarked funding account to help accomplish this goal. This project is being proposed to restore the dimension, pattern and profile of approximately 2,000 feet of stream channel on the Sun River. The intent of the project is to increase the competency of the river channel to transport bedload and to provide for a greater diversity in aquatic habitat. The project, involving oversight from a private consultant, is on property owned by Mr. Gary Lewis located approximately 5 miles west of the town of Vaughn in Cascade County (Figure 1).

I. Location of Project: This project will be conducted on the Sun River located approximately 5 miles west of the town of Vaughn within Township 21 North, Range 1 East, Section 32 in Cascade County.

II. Need for the Project: Department Goal C indicates that a Fisheries Division objective is to "provide and support programs to conserve and enhance high quality aquatic habitat and protect native aquatic species." The Future Fisheries Improvement Program is a tool to help achieve that objective.

The channel of the Sun River within the project area was degraded by a past gravel mining operation. Gravel pits are located on both sides of the river. This past gravel mining activity has resulted in the loss of functional channel geometry and meander pattern. The over-widened, shallow channel has a reduced ability to transport sediment resulting in mid-channel bar formation, aggradation, lateral bank erosion and a loss in the diversity of aquatic habitat. During low flow events, fish habitat becomes severely impacted as stream flow spreads out across a wide and shallow river channel.

III. Scope of the Project:

The proposal calls for restoring approximately 2,000 feet of unstable river channel. The proposed work would involve rebuilding the channel to an appropriate dimension, pattern and profile; installing natural material revetment along two separate reaches totaling approximately 560 feet of streambank; and transplanting willows and cottonwood saplings on the newly restored stream banks (Figure 2). The revetment would be comprised of 40 rootwads, 70 cross logs and 160 boulders. Following construction, the riparian corridor would be protected from further perturbations by implementation of a permanent conservation easement. This project is expected to cost $18,325.00. Of this total, the Future Fisheries Improvement Program would be contributing up to $5,000.00. The remainder of the required funding would come from in-kind

labor and donated equipment by the landowner.

IV. Environmental Impact Checklist:

Please see attached checklist.

V. Explanation of Impacts to the Physical Environment

1. Terrestrial and aquatic life and habitats.

Restoring the dimension, pattern and profile of the existing channel is expected to create a more healthy habitat for aquatic life by narrowing and deepening the channel and by creating overhead cover with natural material revetment. Expected improvements in the aquatic habitat should enhance resident trout populations in the river. Habitat for riparian dependent wildlife would also be improved by enhancing the riparian vegetative community through transplanting sandbar willow and cottonwood saplings and through the implementation of a conservation easement within the riparian corridor.

2. Water quantity, quality and distribution.

Short term increases in turbidity will occur during project construction. To minimize turbidity, construction will occur during a low flow period and operation of equipment in the stream channel will be minimized to the extent practicable. The Department of Environmental Quality will be contacted to determine narrative conditions required to meet short-term water quality standards and protect aquatic biota. A 310 permit will be obtained from the local Conservation District and the U.S. Army Corp of Engineers will be contacted for requirements needed to meet the federal Clean Water Act (404 permit). In the long term, restoring the dimension, pattern and profile of the channel would reduce lateral erosion, thereby improving the overall quality of downstream waters.

3. Geology and soil quality, stability and moisture.

Soils in the project area have been significantly disturbed by past gravel mining activities. Soils along the stream margin would be further disturbed during the proposed period of construction. However, these disturbed soils would stabilize following proposed channel restoration work that is intended, in part, to reduce lateral erosion. Disturbed soils also would be stabilized with the planting of woody riparian vegetation. In the long term, soils would be protected from further perturbations with the implementation of a conservation easement along the riparian corridor. Overall, the project is expected to reduce bank erosion and improve channel stability.

4. Vegetation cover, quantity and quality.

Riparian vegetation and cover has been significantly disturbed by past gravel mining activities. Riparian vegetation and cover would be further disturbed during the period of

construction. However, proposed channel stabilization and re-vegetation efforts, in conjunction with the implementation of a conservation easement within the riparian corridor, would result in an overall long-term improvement to the riparian vegetative community.

5. Aesthetics.

Past gravel mining activities have reduced the overall aesthetics of the project area. Aesthetics would be improved by restoring an unstable reach of river to a more healthy and natural environment and by implementing a conservation easement along the riparian corridor.

9. Historic and archaeological sites

The proposed project may require an individual Army Corp of Engineers 404 permit. Therefore, the State Historic Preservation Office has been contacted to determine the need for compliance with the federal historic preservation regulations. The project will not begin until a cultural clearance is granted.

VI. Explanation of Impacts on the Human Environment.

7. Access to & quality of recreational activities.

It is anticipated that the restoration of 2,000 feet of the Sun River would improve overall aquatic habitat and, as a result, would enhance trout populations residing in the river. Consequently, the recreational fishery in the stream would be expected to be improved. Game fish found in the project area include brown trout, rainbow trout and mountain whitefish. The public currently is allowed walk-in access to this reach of the Sun River.

VII. Discussion and Evaluation of Reasonable Alternatives.

1. No Action Alternative

If no action is taken, this segment of the Sun River will remain over-widened and unstable. This ongoing instability will result in continued bank erosion, excessive sediment loading and the loss of fish habitat. In addition, habitat for riparian dependent wildlife will remain in a degraded condition. Recreational opportunities associated with fish and wildlife resources will remain reduced and aesthetics will continue to be impaired.

2. The Proposed Alternative

The proposed alternative is designed to restore the dimension, pattern and profile of a 2,000 foot reach of the Sun River. The intent of the project is to increase the competency of the channel to transport bedload and to provide for a greater diversity in aquatic

habitat. These activities would reduce sediment loading, resulting in a more healthy habitat for aquatic life. The planting of a variety of shrubs and saplings along the river margin would create more diverse habitat for riparian dependent wildlife. In the long term, this reach of the Sun River would be protected through the implementation of a conservation easement along the riparian corridor. This alternative would improve fish and wildlife habitat, aesthetics and water quality within the project area and would be expected to increase trout populations in the river.

VIII. Environmental Assessment Conclusion Section

1. Is an EIS required? No.

   We conclude from this review that the proposed activities will have a positive impact on the physical and human environment.

2. Level of public involvement.

   The proposed project was reviewed and supported by the public review panel of the Future Fisheries Improvement Program. The proposed project also will be reviewed by the Fish, Wildlife and Parks Commission and will be contingent upon their approval. The Environmental Assessment (EA) is being distributed to all individuals and groups listed on the cover letter. The EA will be published on the Montana Electronic Bulletin Board.

3. Duration of comment period?

   Public comment will be accepted through 5 P.M. on March 24, 2000.

4. Person responsible for preparing the EA.

   Mark Lere, Program Officer
   Habitat Protection Bureau
   Fisheries Division
   Montana Department of Fish, Wildlife and Parks
   1420 East 6th Avenue
   Helena, MT 59620

   Telephone: (406) 444-2432

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS
1420 E 6th Ave, PO BOX 200701, Helena, MT 59620-0701
(406) 444-2535

ENVIRONMENTAL ASSESSMENT

Project Title Sun River Channel Restoration Project

Division/Bureau Fisheries Division -Future Fisheries Improvement

Description of Project The project is being proposed to restore the dimension, pattern and profile of 2,000 feet of the Sun River. The intent of the project is to increase the competency of the river channel to transport bedload and to provide for a greater diversity in aquatic habitat. The project site, involving one landowner and oversight by a private consultant, is located approximately 5 miles west of the town of Vaughn in Cascade County.

POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Terrestrial & aquatic life and habitats			X			X
2. Water quality, quantity & distribution			X			X
3. Geology & soil quality, stability & moisture			X			X
4. Vegetation cover, quantity & quality			X			X
5. Aesthetics			X			X
6. Air quality				X		
7. Unique, endangered, fragile, or limited environmental resources				X		
8. Demands on environmental resources of land, water, air & energy				X		
9. Historical & archaeological sites				X		X

POTENTIAL IMPACTS ON THE HUMAN ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Social structures & mores				X		
2. Cultural uniqueness & diversity				X		
3. Local & state tax base & tax revenue				X		
4. Agricultural or industrial production				X		
5. Human health				X		
6. Quantity & distribution of community & personal income				X		
7. Access to & quality of recreational and wilderness activities			X			X
8. Quantity & distribution of employment				X		
9. Distribution & density of population & housing				X		
10. Demands for government services				X		
11. Industrial & commercial activity				X		
12. Demands for energy				X		
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flows				X		

Other groups or agencies contacted or which may have overlapping jurisdiction Cascade County Conservation District, NRCS, US Fish and Wildlife Service, US Army Corp of Engineers, Montana Department of

Environmental Quality, State Historic Preservation Office
Individuals or groups contributing to this EA Alan Rollo, Sun River Watershed Coordinator; Igor Suchomel, Watershed Consulting
Recommendation concerning preparation of EIS No EIS required.
EA prepared by : Mark Lere
Date: February 7, 2000

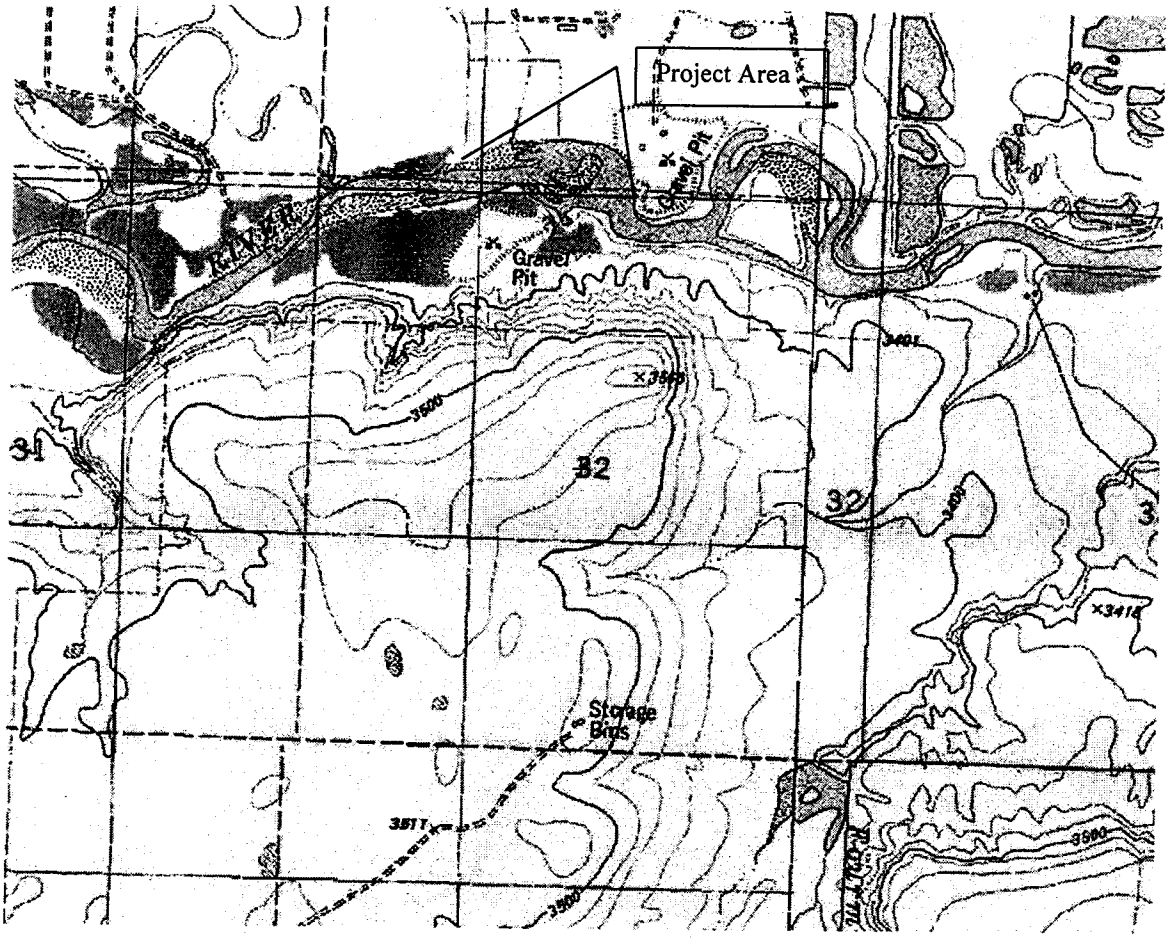


Figure 1. Map showing proposed project area.

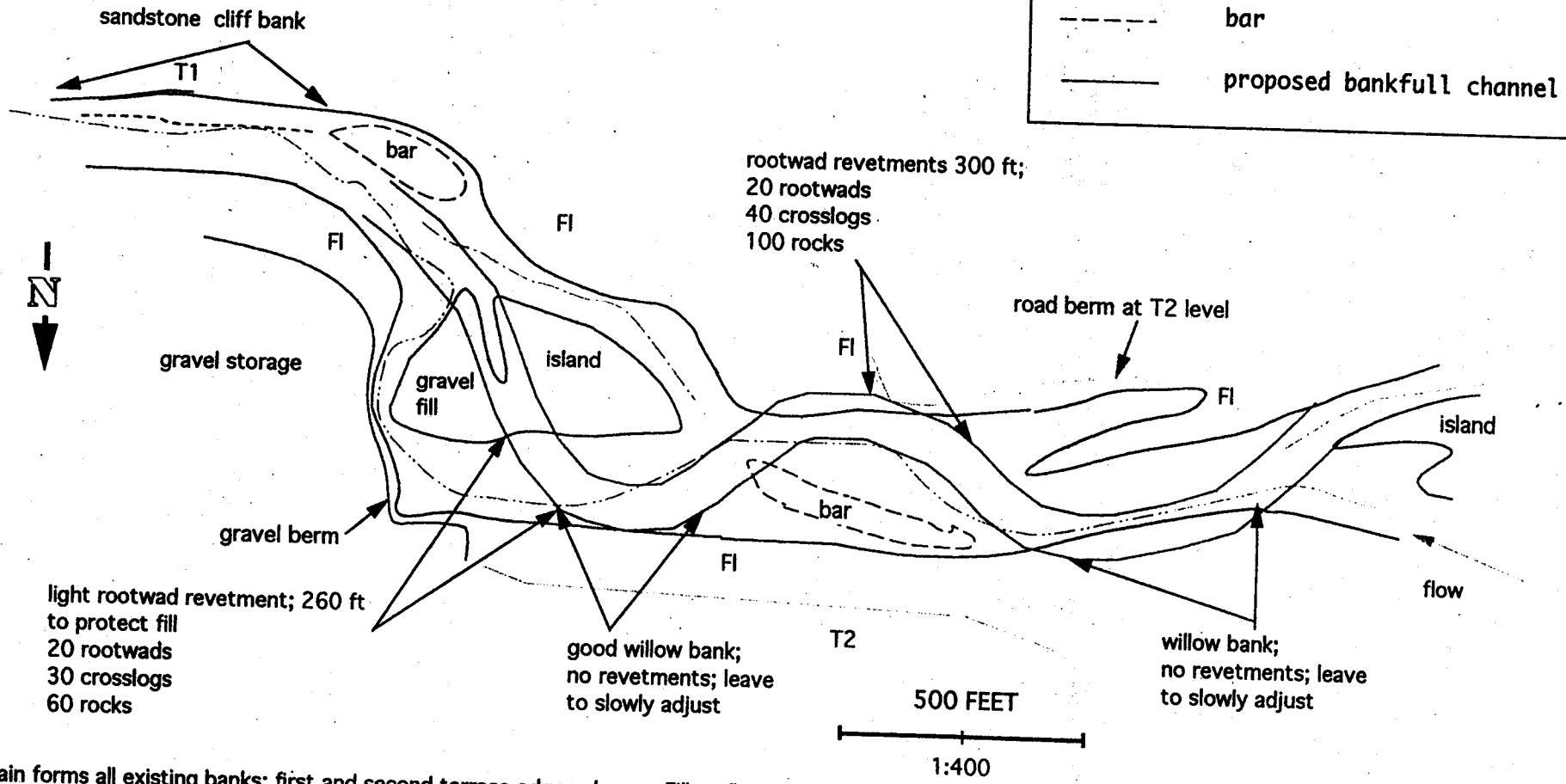
FIGURE 2. SUN RIVER - LEWIS GRAVEL MINE

PROPOSED MEANDER PATTERN VALUES:
Diameter of curvature: 540 ft
Meander length: 1,200 ft
Meander belt width: initially 350 ft;
leave for self-adjustment

Existing bankfull width: 180 to 290 ft
Measured and calculated
functional bankfull width: 90 to 110 ft

Revitalized channel length: 2,450 ft

main thalweg
side thalweg
existing bankfull boundary
rock ledge
second terrace edge (T2)
first terrace edge (T1)
bar
proposed bankfull channel



Floodplain forms all existing banks; first and second terrace edges shown. Fill to floodplain level and revegetate all unused channels. Install brush bars in all bare gravel floodplain level surfaces.